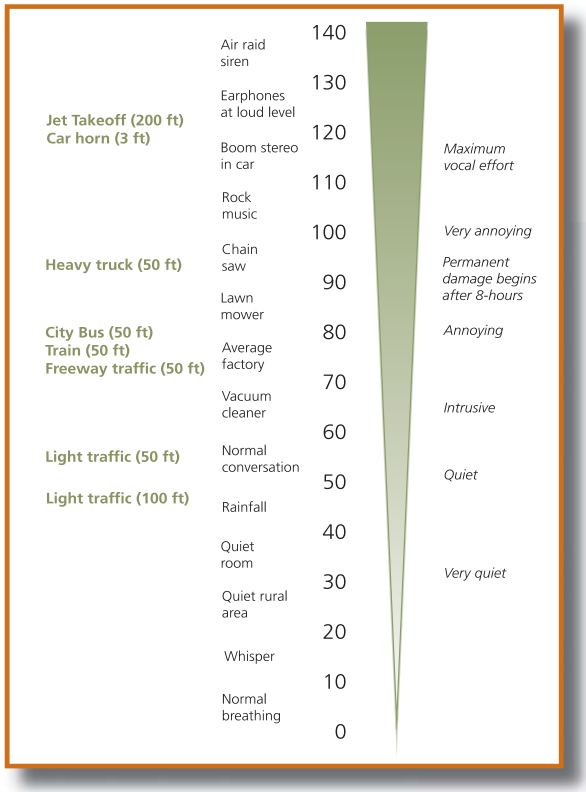
Noise Information Sheet

What are Noise Levels?

Traffic noise levels are measured in A-weighted decibels (dBA), which most closely approximate the way the human ear hears sounds at different frequencies. The A-scale emphasizes the higher frequency noise content, since such noise is more annoying and harmful to the human ear. Since traffic noise varies over time, sound levels are expressed as "equivalent levels" or L(eq), representing the average sound level over a one hour period of time. The figure to the right shows the noise levels of common sounds for reference.



What Qualifies as a Noise Impact?

A noise impact occurs when a property has a noise level that meets or exceeds the value listed in the table below. For residences, parks, and churches the noise level is 66 dBA and for businesses the noise level is 71 dBA. A noise impact also occurs if the predicted future noise level is 10 dBA or more above the existing level.

Noise Level Values

Activity Category	Leq (h), dBA	Description of Activity Category
A	56 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	66 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals
C	71 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above (Businesses)
D	---	Undeveloped lands
E	50 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Noise Walls

- For a sound wall to be effective, it must be high enough and long enough to block the view of the noise source from the receiver's perspective. The Highway Traffic Noise Analysis and Abatement Policy and Guidance published by the U.S. Department of Transportation states that a good rule of thumb is that the noise barrier should extend four times as far in each direction as the distance from the receiver to the barrier. For instance, if the receiver is 50 feet from the proposed noise barrier, the barrier needs to extend at least 200 feet on either side of the receiver in order to be most effective. This is not always practical because of space constraints.
- The UDOT Noise Abatement Policy requires that noise walls achieve at least a five dBA reduction to at least 75 percent of front-row (adjacent) receivers.
- The Noise Abatement Policy further states that a value of $30,000 per benefited receiver will be applied to determine if noise abatement is cost effective for residential areas. A benefited receiver is any impacted receiver that gets a noise reduction of five dBA or more as a result of noise abatement.

Potential Noise Walls

Noise Wall	Height	Length	Total Benefited Receivers
1	14 Feet	997 Feet	48
2	14 Feet	1,801 Feet	48
3	14 Feet	1,948 Feet	50

Balloting

The UDOT Noise Abatement Policy states that as part of the final design phase of projects, the Department needs to know if residents/land owners are in favor of noise abatement measures. This process involves sending ballots to residents/land owners so they can indicate their preference for or against noise abatement measures. Noise abatement will only be recommended if 75 percent of the following groups of residents/land owners vote, through balloting, in favor of the abatement:

- Front row (adjacent) receivers,
- Receivers that would be impacted by the project and benefited by noise abatement

The denominator used to calculate this percentage will equal the total number of completed ballots returned. At least 50 percent of the total number of completed ballots must be returned to adequately assess if noise abatement measures are desired by residents/land owners. If less than 50 percent of completed ballots are returned, then noise abatement measures will not be considered reasonable.

If the property owners vote to reject construction of a noise wall, their area will not be reconsidered for future noise abatement unless a future transportation project falls under the guidelines of a Type I Project for noise abatement.